

Figures 3A and 3B are diagrams of the magnetization helicities of the magnetic layers of the magnetic memory element according to various embodiments of the present invention;

Figure 4 is a diagram of memory cells according to various embodiments of the present invention;

Figures 5A-<sup>5</sup>D illustrate operation of the magnetic memory element according to various embodiments of the present invention;

Figures 6, 7 and 9 are graphs showing micromagnetic simulation results;

Figures 8 and 9a illustrate various geometries for the magnetic memory element;

Figure 10 illustrates a process for magnetizing the storage layer of the magnetic memory element according to various embodiments of the present invention;

Figure 11 is a diagram showing thickness ranges for the storage and reference layers of the magnetic memory element for various embodiments;

Figures 12-14 are diagrams showing the effect of the spin transfer effect for various embodiments of the present invention;

Figure 15 is a graph of the switching time versus the injected current for various embodiments of the magnetic memory element;

Figure 16 is a diagram of a memory device according to various embodiment of the present invention; and

Figure 17 is a diagram of a computing device according to various embodiments of the present invention.